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## (54) Terminally unsaturated macromolecular monomers of polylactones and copolymers thereof.

(57) Preparation of a macromolecular monomer of a lactone allows the preparation of copolymers of lactones with commonly available olefinically unsaturated monomers. There is no known method for the preparation of such copolymers. A cationic ring-opening polymerization of a lactone in conjunction with an unsaturated alcohol (propagator) having an acryloyl, allyl or styryl double bond, produces a polylactone macromer having an ethylenic double bond at one end and a hydroxyl group at the other. The polymerization proceeds by polyaddition of the lactone to the OH group which is the propagating species. The polylactone may include a polymeric or non-polymeric spacer. The propagator is a primary or secondary alcohol which, if cyclic may have a single internal double bond in one ring. The catalyst is an oxonium salt, or etherate of boron trifluoride. The macromer may be copolymerized with a wide variety of olefinically unsaturated monomers to form a macromer copolymer with pendant polylactone chains. In particular, block copolymers of terminally unsaturated macromers of ether-ester, or ester-ether structure may be tailored for specific applications.

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# EUROPEAN SEARCH REPORT

Application Number

EP 88 10 7119

## DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int. Cl.4) |
|---|---|---|---|
| A | GB-A-2 141 721 (DAICEL CHEMICAL IND.) | | C 08 G 63/08<br>C 08 G 63/66 |
| A | EP-A-0 108 372 (UNION CARBIDE) | | |
| A | US-A-4 281 172 (R.J. KNOPF) | | |

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

C 08 G

The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
|---|---|---|
| THE HAGUE | 24-08-1990 | STIENON P.M.E. |

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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E : earlier patent document, but published on, or after the filing date
D : document cited in the application
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